LEAD THE EDGE, ENHANCE THE FUTURE

KIGIS SAFETY TECHNOLOGY

INDUSTRY 4.0 & SAFETY 4.0

We are living in the era of industry 4.0 (so-called 'fourth industrial revolution') which is driven by mass-data availability, connectivity, and machine learning technology. Eventually, this will impact cost operation, efficiency, and productivity. Machine become smarter than human and we are believing this triggered to establish 'Smart Factory'.

Thanks to this 'Smart Factory' where all the data become collective and manageable, it also created a safety technology. As the factory makes better decisions faster to increase efficiency, the technology protects the human with an intelligent decision and helps them achieve the job. The job must be done, yet safely.

Now the key is how to make the safety equipment smart as combining the technology.

KIGIS Safety Technology

KIGIS Safety Technology is a subsidiary brand of Kyungwoo Systech, Inc., a leading company in the automotive and industrial electronics sectors. Kyungwoo Systech, headquartered in Seoul, South Korea, has over 20 years of experience in designing and developing innovative solutions for controls for a wide variety of industrial vehicles including excavators, forklifts, loaders, tractors, and electric equipment. The dedicated KIGIS team from Kyungwoo Systech has derived innovative and advanced solutions to prevent accidents and protect people in any industrial workplaces, which leads us to outstanding achievements across South Korea and overseas.

KIGIS SAFETY 4.O

WITH IPAS (INTELLIGENT PROXIMITY ALERT SYSTEM)

People protection solution for all workers

IPAS is a smart safety solution as a preliminary measure for accident prevention with UWB technology which allows both accurate measurement of time and data communication. Thanks to bilateral alarm type, both pedestrians and drivers can be aware of hazardous situation via audible and visual alert. The implementation of KIGIS solutions helps avoid interruption of work due to unexpected casualties.

Safety-assisting system in various industries

One of the main features of IPAS is that functions can be variously configurable depending on field type (warehouse, mining, port, factory, plant and etc.). Multiple devices can be attached to a huge machinery in order to maximize the safety area. Besides, each item's options are manually configurable so that users can experience different functionalities depending on purpose.

High usability of individual device

Another advantage of using Ultra Wide-band technology is that IPAS doesn't require any registration and calibration. Simple design offers easy installation and detachment to users. Moreover, no additional software fee is required when updating the device. Enhanced usability helps workplace managers adapt essential tools to protect valuable properties with minimum operational cost.
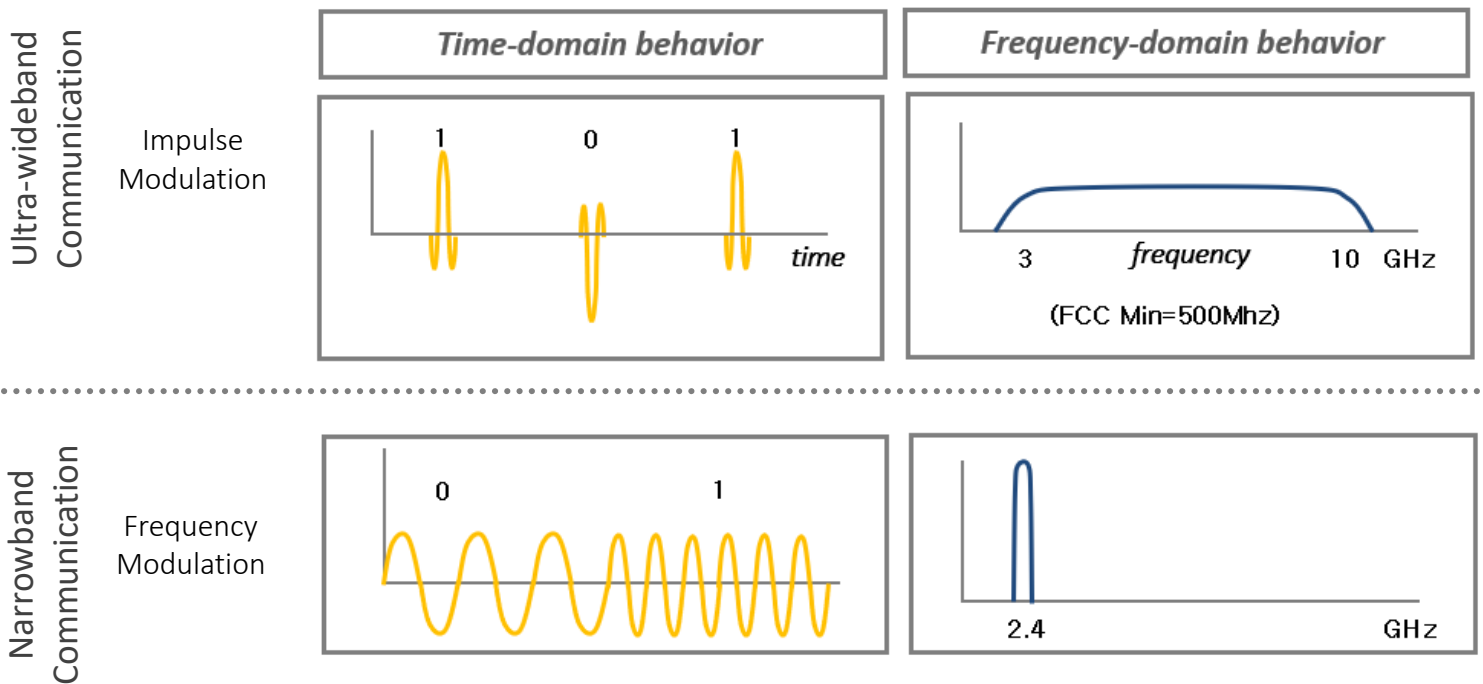

KIGIS
SAFETY TECHNOLOGY

Intelligent Proximity Alert System based on UWB technology

Ultra wide-band technology

The term ultra-wideband (UWB) commonly refers to signals that have a large relative bandwidth or a large absolute bandwidth. The use of large transmission bandwidth allows for several benefits, including accurate ranging, robustness to propagation fading, impressive obstacle penetration, and interference rejection. UWB technology modulates impulse-based waveforms instead of continuous carrier waves. That is why UWB measures the distance precisely with minimum error.

<UWB Communication>

<Figure1. Comparison between UWB and Narrow-band communication>

<Comparison between UWB and Narrow Band>

	Ultra Wide-band	Narrow Band
Ranging Technology	TOF (Time of Flight)	RSSI (Receiver Signal Strength Indication)
Communication	UWB	RFID, BLE, WI-FI
Measurement error	< 0.1m	2-5m
Multipath fading	Low	High

SAFETY MATTERS.

The industry statistics in the United States cite a 90% probability of a forklift being involved in a serious injury or fatality accident. The biggest accident type is crushed by a vehicle tipping over following with crushed between the vehicle and a surface. Approximately, 80% of forklift accidents involve a pedestrian. People are concerned about being struck or run over by a forklift.

KIGIS – IPAS (Intelligent Proximity Alert System)

| Vehicle Tag | Indicator/ Indicator+ | Pedestrian Tag | Crossway Zone Tag | Flashlight Zone Tag | EOD |

KGIS IPAS (Intelligent Proximity Alert System) is a safety-assisting device which prevents collisions between pedestrians and vehicles by signaling dangers in 2-way communication to both driver and pedestrian in an industrial site. Each device determines the distance from the vehicle tag based on TOF (Time of Flight, the time delay of the return signal). With Ultrawideband technology, IPAS measures the distance precisely and provides highly reliable collision warnings. This system is designed not only for anti-collision between vehicles and people but also for vulnerable areas. The zone tags (both Crossway and Flashlight) provides a visual and acoustic alarm at intersection or corners.

KIGIS – IFLEET, FLEET MANAGEMENT SYSTEM

Telematics technology and web based service

- Simple vehicle and driver management
- Effective access control
- More safety in traffic on premises
- Clear analysis of fleet usage
- Predictive maintenance
- Visible reduction for violent damage

KIGIS Customers...

With industrial experience and technical expertise in more than 20 countries, we optimize our safety solution to our customers.. With our competence, innovative products and an experienced management team, we meet customer requirements worldwide. We are proud of our customers!

Petrochemical　　　　　Automobile　　　　　Distribution Center　　　　　Construction

LG Chem

SK innovation

Hanwha Chemical

S-OIL　DAELIM

HYUNDAI MOTOR GROUP

KIA KIA MOTORS

HYUNDAI MOBIS

SAMSUNG ELECTRONICS LOGITECH

DHL

IKEA　amazon

Whirlpool　coupang

SAMSUNG SAMSUNG C&T　GS E&C

HYUNDAI CONSTRUCTION EQUIPMENT　HYUNDAI ENGINEERING CO. LTD.

LOTTE E&C　SK E&C　ex Korea Expressway Corporation

DAEWOO E&C　DAELIM

Think Safe, Work Safe, Home Safe.

Discover more about KIGIS- IPAS(Intelligent Proximity System),
please visit www.kigistec.com or Download our Catalogue , Click here!

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